Attachment 5. Work Plan

This Work Plan identifies and describes the activities necessary to conduct monitoring well installation program in the Martis Valley Groundwater Basin (MV Basin). This study supplements basin-wide groundwater monitoring that began in Spring 2012, and the update of the Martis Valley Groundwater Management Plan and includes exploratory drilling, depth-discreet monitoring well installation, and one year of water level and quality monitoring. The goals of the study are to expand the MV Basin groundwater monitoring well network in order to improve the long term monitoring potential, and increase the understanding of recharge areas and groundwater/surface water interaction in the Basin.

The MV Basin is an intermontane, fault-bounded basin east of the Sierra Nevada crest. The Martis Valley is the principal topographic feature within the Basin, although the Basin extends to the north and west of the well-defined valley. The MV Basin is identified as Basin 6-67 in DWR Bulletin 118 and is shown on Att5_LGA12_PCWA_Wrkpln_2of3. The Truckee River crosses the basin from south to east in a shallow, incised channel. Principal tributaries to the Truckee River are Donner Creek, Martis Creek, and Prosser Creek. Major surface water storage reservoirs include Donner Lake, Martis Creek Lake, and Prosser Creek Reservoir.

The study will consist of the selection the location for and installation of three new monitoring wells on property of three key groundwater stakeholders: Placer County Water Agency (PCWA), Truckee-Donner Public Utility District (TDPUD), and Northstar Community Services District (NCSD).

The study scope of work includes the following general work tasks:

1. Conduct a siting study to locate three monitoring wells; potentially one each on property currently owned by NCSD, PCWA, and TDPUD.
2. Complete CEQA, well permitting, and property access agreement activities.
3. Install and develop three monitoring wells including logging the borehole cuttings, and conducting a survey of each well location and elevation.
4. Collect 1 year of groundwater elevations (2 events) and one set (one event) of groundwater quality samples once the wells are properly developed. Analyze samples for key chemical constituents.
5. Reporting results to the Stakeholder Working Group (SWG), DWR and the public.

The work is estimated to take between 18 and 20 months and will be completed within 24 months of the City's date of authorization of agreement with the DWR. An assumed start date is April 2013 and anticipated completion in December 2014. Due to alpine climate conditions, well drilling is restricted to the summer months (May 1 through October 15) and dependent on weather conditions. The project schedule is included in Att7_LGA12_PCWA_SCHED_2of2.

SCOPE OF WORK

The following tasks describe in detail the methodologies and anticipated requirements to complete each component of the project. Each task presents a costs and deliverables. Detailed budget and schedule information are included in Attachments 6 and 7 of this application.

Task 1. Project Management, Oversight and Reporting

This task will include management oversight and continually updated strategic direction, as necessary, that will help ensure efficient progress on all facets of the project. The Project Team will consist of project consultants, a Project Manager from PCWA, and the SWG that has been

established for the Martis Valley Groundwater Management Pan Update project. The SWG will include a wider range of participants, including representatives from DWR, Truckee-Donner Public Utility District, Northstar Community Services District, among others.

While the Project Team will have the responsibility of completing the project, and therefore, administer the project on a day-to-day basis, the SWG will provide strategic insight on key issues and, in the case of DWR, provide ongoing oversight regarding compliance with the Prop 84 grant guidelines. Ongoing management oversight, facilitated through regularly held meetings and the establishment and adherence to strict documentation protocols are all necessary project management components.

All field work will be conducted under the supervision of a California Professional Geologist and Certified Hydrogeologist and all work planning documents and work products reviewed by at least one additional independent California Professional Geologist and Certified Hydrogeologist.

Task 1.1 Project Management Meetings

A kick-off meeting will be held by the Project Team to reconfirm project goals, objectives, scope, corroborate project schedule, and assign initial project activities. This meeting will clearly identify the overall intent of the study effort and particularly, the manner with which any future independent processes (e.g. CEQA compliance, acquisition of necessary permits, etc…) will be integrated into the ultimate implementation of this project. The kick-off meeting will also include attendees from the SWG.

The Project Team members will attend regularly scheduled administrative meetings during the length of the project to review the project's status, discuss key developmental and strategic issues, identify the need for and methods of acquiring additional data/information, resolve problems, and present a summary of findings. Seven project management meetings are anticipated over the duration of the project.

Deliverable:

- Meeting agendas and notes, invoices

Cost Assumptions

- The kick-off and two status meetings will be held at TDPUD offices in Truckee, California.
- Four status meetings will be held via conference call.
- $400 mileage costs

Task 1.2 Quarterly Status Reports and Groundwater Related Data Reporting

Quarterly status reports (QSR) will be prepared and submitted electronically to DWR as part of the MV Basin study process. Designated meetings may be held in addition to the project status meetings to review and discuss the contents and implications of these reports. Available monitoring data will be included in the QSRs. Pursuant to California Water Code Section 10795.15 all groundwater related data collected during the MV Basin study effort will be submitted to DWR.

Deliverables:

- Seven QSRs; electronic submittals.

Cost Assumptions

- Each QSR will require an average of 20 hours of technical staff time to prepare and senior staff review.

Task 1.3 Grant Administration and Documentation

As part of best management practices all study activities will be fully, consistently, and accurately documented. This will be particularly important given the several independent future processes that will rely in some part on the documentation and findings of this study. All meeting notes, correspondence, briefings, analyses, and other documentation will be maintained by the Project Team and will be available for inspection by DWR. Administrative matters include work completed-to-date, tracking of billing expenditures, schedule maintenance, problems encountered and options for their resolution, and upcoming work.

Deliverables:

- Documentation

Cost Assumptions

- Partnership coordination, project invoicing, budget management, subcontractor oversight, consultant oversight and schedule management will require approximately 9-11 hours per month including. PCWA's in-kind staffing efforts.

Task 1.4 Public Outreach

As part of the project activities, results of this study will be regularly communicated to the public via outlets, meetings, and methods developed as part of the ongoing Martis Valley GMP project. Meeting announcements will use the existing GMP public outreach media outlets such as the project website (www.martisvalleygmp.org), local newspapers, and public forums available to PCWA, NCSD, and TDPUD.

Deliverables:

- Public meeting announcements, website updates, updates presented Martis Valley GMP SWG meetings.

Cost Assumptions

- Includes 40 hours of principal, senior and junior technical staff to prepare public outreach newsletters, website, and public forums.
- Multi-media presentations are not included in this scope of work.
- Supplies $500

Task 2. Well Location Evaluation

To evaluate potential monitoring well locations, a variety of sources will be consulted, including those administered and held by state and federal agencies, local agencies, and the information compiled as part of the Martis Valley GMP. A review and evaluation of these resources will be necessary to select monitoring well locations that are feasible, and provide data of the most value for long term MV Basin monitoring.

Task 2.1 Data Review of MV Basin Water Resources and Geologic Data

A thorough understanding of the local hydrogeology is essential to the selection and evaluation of potential monitoring well locations. To further determine the optimal locations for new wells, the research and compilation of the geology and hydrogeology data for the Martis Valley GMP will be used. This data set is the most up-to-date and thorough information available and was used in the development of the groundwater model being developed concurrently through the Bureau of Reclamation Martis Valley Watershed analysis. A variety of groundwater and surface water

information will be reviewed including location of areas other monitoring and production wells, proximity to surface water and recharge areas, proximity to pumping centers, nearest power supply, depth to groundwater, depth of groundwater basin, and stratigraphy. A partial listing of background information that will be reviewed as part of the Study is provided here.

- U.S. Bureau of Reclamation/Army Corps of Engineers publications on recent Martis Dam repair.
- DWR Publications regarding groundwater quality, elevations, and yields.
- U.S. Geological Survey Water Resources Bulletins or other relevant publications.
- Other relevant groundwater resources publications and reports.

Deliverables:

- Summary of review and documentation of references in QSR and draft and final reports.

Cost Assumptions

- Effort includes 24 hours of senior and junior technical staff to contact and obtain materials from state and federal agencies; review and summarize.

Task 2.2 Water Quality

As groundwater can be extremely variable, it is important to acquire and update knowledge of the shallow aquifer water qualities developed for supply in the MV Basin. Water quality data compiled as part of the Martis Valley GMP and other studies (i.e. USGS GAMA) will be reviewed and summarized to provide background to potential water quality of possible monitoring well locations. The results of this summary will also be used to confirm analytical parameters that will be tested in the new wells and to compare the new data to historical results from the entire basin.

Deliverables:

- Summary tables of MV Basin water quality

Cost Assumptions

- Effort includes 24 hours of staff time; assumes data have been compiled for previous reports.

Task 2.3 Land Use/Ownership

Land use and ownership maps (GIS) will be reviewed for all potential well locations. A goal of this project is to locate one well each on property of PCWA, NCSD, and TDPUD.

Deliverables:

- Map of PCWA, NCSD, and TDPUD property boundaries within the MV Basin, in appropriate QSR and draft and final reports.

Cost Assumptions

- Property information to be provided in electronic form by PCWA, NCSD, and TDPUD. Effort includes 24 hours of technical and GIS staff time.

Task 2.4 Perform Well Location Field Survey

Once a preliminary list of potential locations has been developed, the technical team will coordinate with the appropriate agency (property owner) to conduct a site visit of potential locations to evaluate year-round access, identify potential drilling hazards, and confirm the proximity of key local features (surface water bodies, etc…).

Deliverables:

- Field notes
- Site Photos

Cost Assumptions

- 2 days to visit potential locations; round trip travel to Truckee area; mileage costs

Task 2.5 Conduct Environmental Check

Environmental Data Resources (EDR) Radius Checks will be obtained for three potential monitoring well locations. These locations will be selected after the field survey and consist of the most likely locations from each partnership agency. The information will be used to identify potential environmental issues associated with the drilling locations prior to final site selection.

Deliverables:

- Environmental documentation summary will be included in a QSR; full documentation included as an appendix in draft and final reports

Cost Assumptions

- 2 days staff time will be required to order and review the documentation.
- Cost of environmental documentation is estimated at $1,500.

Task 2.6 Draft Well Location Memorandum

A Well Location Memorandum will be prepared by the Project Team and submitted to DWR and the SWG for review and comment following completion of the initial study and analysis of potential well locations. The project team will work closely with the State of California, Department of Health Services (DHS) and DWR and local permitting agencies to ensure that potential drilling locations meet permitting criteria. The recommended drilling location(s) will be presented at a project administration meeting for approval by the SWG. The memorandum will include:

- Summary of data compiled
- GIS-based presentation of relevant water level data, existing well logs and basin geological data used to evaluate potential well sites
- Summary of GMP groundwater model needs and data gaps that could influence well location
- Location of nearby pumping centers and surface water features
- Summary of logistical evaluation of each potential well site that includes access difficulties and potential for permanent power.
- Recommended locations for well located on property of PCWA, NCSD, and TDPUD

The memorandum will include conclusions regarding the groundwater resources potential of the study area and recommendations for implementation as appropriate. A meeting will be scheduled to discuss the report and seek consensus on its findings with the SWG. Electronic distribution of the draft report will be extended to participants on the SWG after review by partnership agencies.

Deliverables:

- Draft Well Location Memorandum
- Meeting Agenda

Cost Assumptions

- One meeting in the Truckee area attended by the PM, one technical team member, and the SWG
- Effort includes 68 hours of senior and junior technical staff and GIS technician
- Electronic submittal of the draft Well Location Memorandum

Task 2.7 Final Well Location Memorandum

Upon receipt of all comments from DWR and SWG representatives, the Project Team will prepare and submit to DWR a Final Well Location Memorandum. Based upon these final recommendations, the project team will move forward to permit and install the monitoring wells at the agreed upon locations.

Deliverables:

- Final Well Location Memorandum.

Cost Assumptions

- Effort includes 24 hours of technical staff and GIS technician
- Electronic submittal of the Final Well Location Memorandum

Task 3. Conduct Well Drilling, Construction, Sampling and Testing

These tasks include all work associated with the drilling of exploratory test borings, construction and development of monitoring wells. Three drill sites are anticipated, one each on the property of PCWA, NCSD, and TDPUD or public-right-of-way. The final locations will be determined by the process outlined above in Task 2.0. The actual drilling depths and well construction details are also subject to the results of Task 2, subcontractor bids, and encountered field conditions.

Task 3.1 Permitting, Access Agreements, and CEQA Documentation

The three locations will be selected on property already owned by PCWA, NCSD, and TDPUD. These locales will need access and authorization from each organization. Once potential properties have been identified, priority for the well sites will be based on technical usefulness of the data and site accessibility. The test wells will be constructed in accordance with applicable sections of California Department of Water Resources Bulletin 74-81 “Water Well Standards, State of California” and its supplement Bulletin 74-90, and in accordance with applicable county well standards. Environmental documentation to satisfy the California Environmental Quality Act (CEQA) requirements is anticipated to consist of a Categorical Exemption. The CEQA requires that the project work tasks be evaluated for their impacts to the environment. Based upon similar investigations with a similar scope, the proposed project is anticipated to qualify for an Article 19 Categorical Exemption 15306 - Information Collection. As such, PCWA will submit documentation to this effect for public review for the life of the project and file with the state clearinghouse and maintain the documentation.

Deliverables:

- Local permits
- Access agreements from PCWA, NCSD, and TDPUD
- CEQA documentation

Cost Assumptions

- CEQA requirements can be met by a categorical exemption
- No significant modifications or site improvements will be required for the well installation

- CEQA documents will require 20 hours of staff time to prepare and review
- Drill permits will require 12 hours of staff time to prepare and review
- Placer County permit fees estimated at $430
- Staff effort of 4 hours for agency access coordination and potential traffic issues

Task 3.2 Prepare Drilling Work Plan and Contract Drilling Subcontractor

The project will require the preparation of a detailed "Drilling Work Plan" and the retention of a California licensed drilling subcontractor familiar with project location and conditions. The Drilling Work Plan will include Special Conditions and Technical Specifications. Drilling conditions in the alpine climate and environment call require additional considerations such as drilling during the Tahoe Regional Planning Agency (TRPA) grading season, May 1 through October 15. Special Conditions will be developed to address site-specific conditions such as:

- Construction water availability
- Utilities
- Site security
- Noise suppression, if necessary
- Fluids/solids waste disposal
- Site restoration
- Other site-specific subcontractor requirements

Technical Specifications will be developed to establish work descriptions, acceptable materials, test and well construction execution protocol, record keeping, submittal requirements and other project components. The Technical Specifications will also address the following critical issues:

- Drilling methods
- Formation sampling/methodology
- Borehole sizing requirements
- Casing dimensions and composition
- Gravel pack material
- Surface sanitary seal material makeup and installation procedures
- Well development protocol
- Short and long-term pumping and sampling actions
- Other project design and procedural elements

"Drilling Work Plan" activities will be conducted under the direct supervision of a California Professional Geologist, a Certified Hydrogeologist or a Professional Engineer and will include, but not be limited to, oversight of all drilling, casing installation, gravel pack and seal placement, well development, pump testing and water quality sampling activities.

Deliverables:

- Draft Drilling Work Plan
- Final Drilling Work Plan
- Drilling contractor selection and contracting

Cost Assumptions

- Electronic submittals
- Effort includes 50 hours of senior and junior technical staff and GIS technician

Task 3.3 Well Installation and Development

Based upon information gathered during the previous investigations it is anticipated that three 4-inch diameter wells will be installed in the locations selected in Task 2.0. Following procurement of the access authorization and drilling permit the site will be marked in white paint and underground service alert notified to clear underground utilities. If required, a private utility locator will be used to locate other underground utilities and clear the drilling area.

The borehole will be advanced using mud rotary drilling methodology due to anticipated geologic conditions. The drilling will be completed during business hours between 7 am and 6 pm when the locations are close to residential areas. The drilling locations are anticipated to be within property owned by the partnership agencies. Drill cuttings are planned on being spread on land surface adjacent to the drill site and water produced during drilling will be discharged to land surface or any storm water retention basins in the vicinity of the drill sites. The State of California Regional Water Control Board requires a discharge permit before groundwater is pumped and discharged to streams or rivers or other surface waters. If necessary to discharge water to a nearby drainage, a general discharge permit (Order No. R5-2008-0081, NPDES No. CAG995001) will be obtained prior to any discharge. Obtaining a general discharge permit is not anticipated for this project.

A 4-inch monitoring well will be constructed inside the borehole using schedule 40 poly vinyl chloride (PVC) threaded well casings, with an assumed 0.020 inch slot PVC screen, a generalized well design is illustrated in Att5_LGA12_PCWA_WrkPln_3of3. The depth of the wells and the length, depth and slot size of the screen will be determined in the field based on the lithology, the depth to static water, and drilling conditions. It is anticipated that screen length will be 20 ft. The existing water table may be hard to be identified during drilling due the drilling fluid coating the sides of the borehole but an experienced driller and geologist can detect changes in speed, drilling fluid viscosity or loss of fluid, and a change in cuttings. It will be important to determine water level measurements in other nearby wells if these data are available. The wells are anticipated to be completed to about 200 feet bgs and the screen intervals will be determined based on drilling observations and water levels from nearby wells. The assumed annulus will consist of a filter pack of No. 3 sand, with an intermediate 3 foot seal of bentonite pellets, and then sealed to the surface with neat cement. The well design will be determined based upon field observations and will be consistent with Section 13801 of the California Water Code. The wells will be completed above ground with metal standpipes and locking caps.

Following completion of the well, the grout seal will be allowed to set for at least 24 hours prior to initiation of well development. The wells will be developed by surging, bailing, or pumping until clean, sediment-free water is produced. The length of development time will vary, depending on field conditions, but approximately 4-8 hours is assumed. During development, field parameters will be evaluated to document development, these field parameters will include: turbidity, pH, temperature, specific conductivity, and oxidation-reduction potential and will be recorded on field records. The well will be developed until it is free of suspended sediment and turbidity values are less than 10 NTU.

The well installation project will include contracting a Professional Land Surveyor (PLS) to vertically and horizontally locate all three new groundwater wells using survey-grade GPS. In order to compare data from the monitoring wells, the wells will be referenced to a relative common elevation datum. A map will be provided by the PLS with locations of nearby landmarks, ground surface elevations and top of casing elevations for each of the three wells. These data will be included in the final study report.

Deliverables:

- Boring Logs
- Well construction diagrams
- Sample Chains-of–custody

- Professional Land Survey report

Cost Assumptions

- Drilling and installation of each well can be completed in 4 long days (12 days total)
- Development of each well can be completed in 1 long day (3 days total)
- Surveying can be completed in 2 days total
- Lodging and food for 12 nights
- Each well will cost $38,000 to drill, install, and develop
- Surveyor fee of $1650
- $1,000 vehicles and mileage
- $250 equipment rental

Task 3.3 Construction Management and Inspection

In accordance with PCWA standard operating procedures and policies in regards to all design and construction projects, PCWA will provide construction management and inspection personnel and services for all phases of construction.

Deliverables:

Field inspection reports

Cost Assumptions

Effort and expenses include $15,000.

Task 4. Monitoring Data and Reporting

This task includes obtaining and compiling water level data for the three new monitoring wells for a total of two events, compiling water quality data for one event and compiling the new data with existing data for other existing wells in the MV Basin from available sources. All work will be performed according to standard industry practices. These constituents may include general minerals and selected metals. Field measurements, when acquired, will be provided to PCWA for entry into the regional MV Basin database.

Wells will be sampled for water quality during the initial monitoring event only. The first monitoring event will occur no sooner than 48 hours after development. The well will be sampled for general water quality, major cations and anions, and general minerals and stable isotopes. The water quality analyte list is provided in Table 1 below. Before a sample is collected, water levels will be collected using an electric well sounder to the nearest 0.01-foot. The wells will then be purged until a minimum of three well casing volumes have been removed and water characteristics such as temperature, pH, and electrical conductivity have stabilized. All wells will be sampled immediately after purging. If the well is purged dry, the well will be allowed to recover to approximately 80 percent of the static water level prior to sampling. All water quality samples will be submitted to a California Licensed laboratory under proper chain of custody procedures.

The groundwater samples will be collected with a new disposable bailer attached to a new or decontaminated line. After groundwater has been collected inside the bailer, the groundwater will be transferred to laboratory certified containers. Sample preservation will be performed immediately upon sample collection except when specifically allowed by the selected method. The samples will be labeled and refrigerated with ice, then transported under chain-of-custody to a state-certified analytical laboratory. The contract laboratory will be responsible for inspecting preservation documentation at the time of sample receipt to assure samples are properly preserved.

Table 1. Analytical Parameters, Sampling and Preservation Methods

Parameter	EPA Method	Container	Preservation	Analysis Hold Time[a]
Isotope Analyses: deuterium (^2H)	EA-IRMS (Zn reduction to H_2)	60- to 100-ml HDPE with polyseal cap	Unfiltered; no preservative; chilled	>1 year
Isotope Analyses: oxygen-18 (^{18}O)	EA-IRMS (CO_2 equilibration)	60- to 100-ml HDPE with polyseal cap	Unfiltered; no preservative; chilled	>1 year
Anions (nitrate, chloride, carbonate, bicarbonate,)	EPA 300.0	250 ml polyethylene	Field Filter Ice to 4°C (Cl: none)	28 days
Nitrate as Nitrogen	EPA 300.0	250 ml polyethylene	Field Filter, H_2SO_4 to pH<2; Ice to 4°C	48 hrs
Alkalinity	EPA 310	250 ml polyethylene	Field Filter, none	14 days
Metals (arsenic, iron, manganese) and Cations (sodium, potassium, calcium, magnesium)	EPA 6010B	500 ml polyethylene	Field Filter, HNO_3 to pH<2; Ice to 4°C	6 months
Total Dissolved Solids	EPA 160.1	250 ml polyethylene	Field Filter, none	7 days
PH, temperature, oxidation-reduction potential, specific conductivity, dissolved oxygen, and turbidity	Field instrument	250 ml polyethylene	None	Field

a = Starting from the date of extraction; if no extraction is involved, starting from the date of collection
Abbreviations: ml = milliliter oz = ounce

Cations and anions will be graphically represented using either Piper plots or Stiff diagrams. These diagrams are used to assess the general water chemistry of the samples for comparison with other water samples in an attempt to assess spatial variations. Isotope data will be analyzed to assess possible recharge characteristics/sources of the groundwater. Two isotopes of oxygen and hydrogen – oxygen-18 (180), and deuterium (2H) – will be included as part of the initial monitoring and sampling event. Both of these isotopes are naturally occurring isotopes of oxygen and hydrogen that can be used to assess hydrologic processes and thus are classified as hydrologic tracers.

For each of these three new wells, these isotopes of hydrogen and oxygen will be analyzed to aid in identifying sources of recharge; to evaluate the potential for mixing or local interconnectivity that may be occurring among aquifers; and to assess the relative age of waters in the aquifers. In conjunction with cation and anion geochemistry, the use of isotopes provides an additional line of evidence to support statements regarding the relationships between local, intermediate, and regional aquifer systems.

The second monitoring event will occur approximately 6 months after the first monitoring event, or when weather and access allows, and will consist of collecting water level measurements as described above. Water level data will be collected and submitted according to the Martis Valley CASGEM Plan.

Monitoring results will be provided in the draft and final reports described under Task 5.0. After completion of the two monitoring events that are included in this Work Plan, the partner agencies will

coordinate the collection of water level data and provide the data for the well semi-annually for inclusion in the regional groundwater monitoring program.

Deliverables:

- Data collected during this task will be included in the draft and final report described in Task 5.0.

Cost Assumptions

- Field work, data compilation and reporting will require 5 days of staff time.
- Lodging and food for 2 days
- Laboratory fees of $2500
- Mileage $400
- Equipment and supplies $250

Task 5.0 Monitoring Well Installation and Monitoring Report

This task is designed to prepare and complete draft and summary reports for the project work.

Task 5.1 Draft Well Installation and Monitoring Report

A draft well installation report will be prepared to document well installation activities and summarize new data collected during the two monitoring events. A meeting will be scheduled to discuss the report and its findings with the SWG. Electronic distribution of the draft report will also be extended to participants on the SWG. The draft report will include:

- Summary of well location selection
- Summary of well installation activities
- Final well logs and well construction diagrams
- Well development results
- Survey results
- Water level data
- Water quality data
- A summary of geologic formations encountered in each boring
- Analysis of groundwater quality and isotope data
- Recommendations for additional work

Deliverables:

- Draft Well Installation report; electronic deliverable
- Meeting Agenda

Cost Assumptions

- 1 Meeting in the Truckee area attended by the PM, 2 technical team members, and the SWG
- The draft report will require 150 hours of senior and junior technical effort; GIS technician; graphics and administration staff. Eight hours of a principal technical reviewer for QA/QC is included.
- Electronic distribution of draft report. One review and comment cycle for the SWG and two review and comment cycles for the partner agencies are included.

Task 5.2 Final Well Installation and Monitoring Report

Upon receipt of all comments from DWR and SWG representatives, the Project Team will prepare and submit to DWR a Final Well Installation Report.

Deliverables:

- Final Well Installation Report.

Cost Assumptions

- The final report will require 44 hours of senior and junior technical effort; GIS technician; graphics and administration staff. Two hours of a principal technical reviewer for QA/QC is included.
- Electronic distribution and ten hard copies.
- $300 in reproduction and supplies

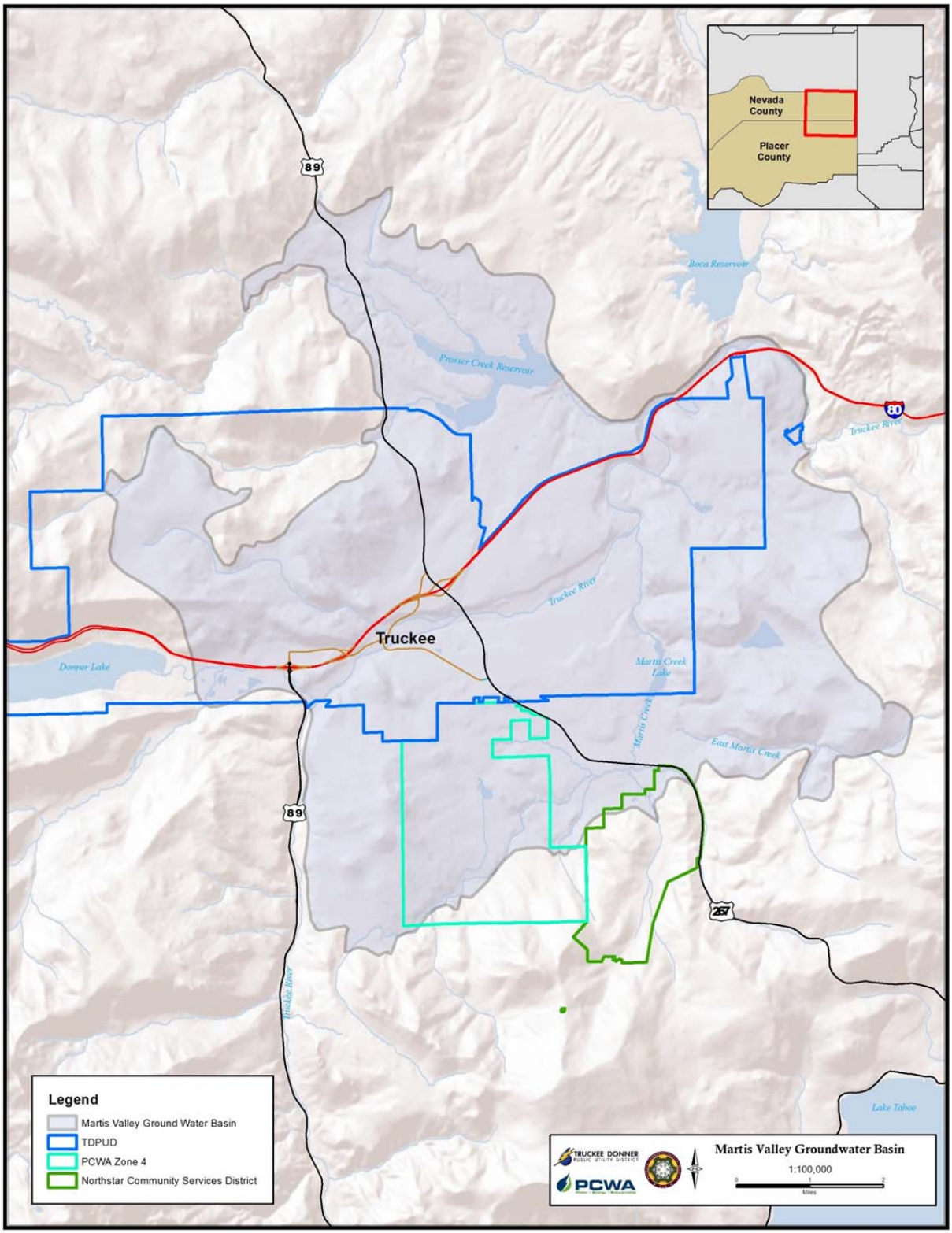
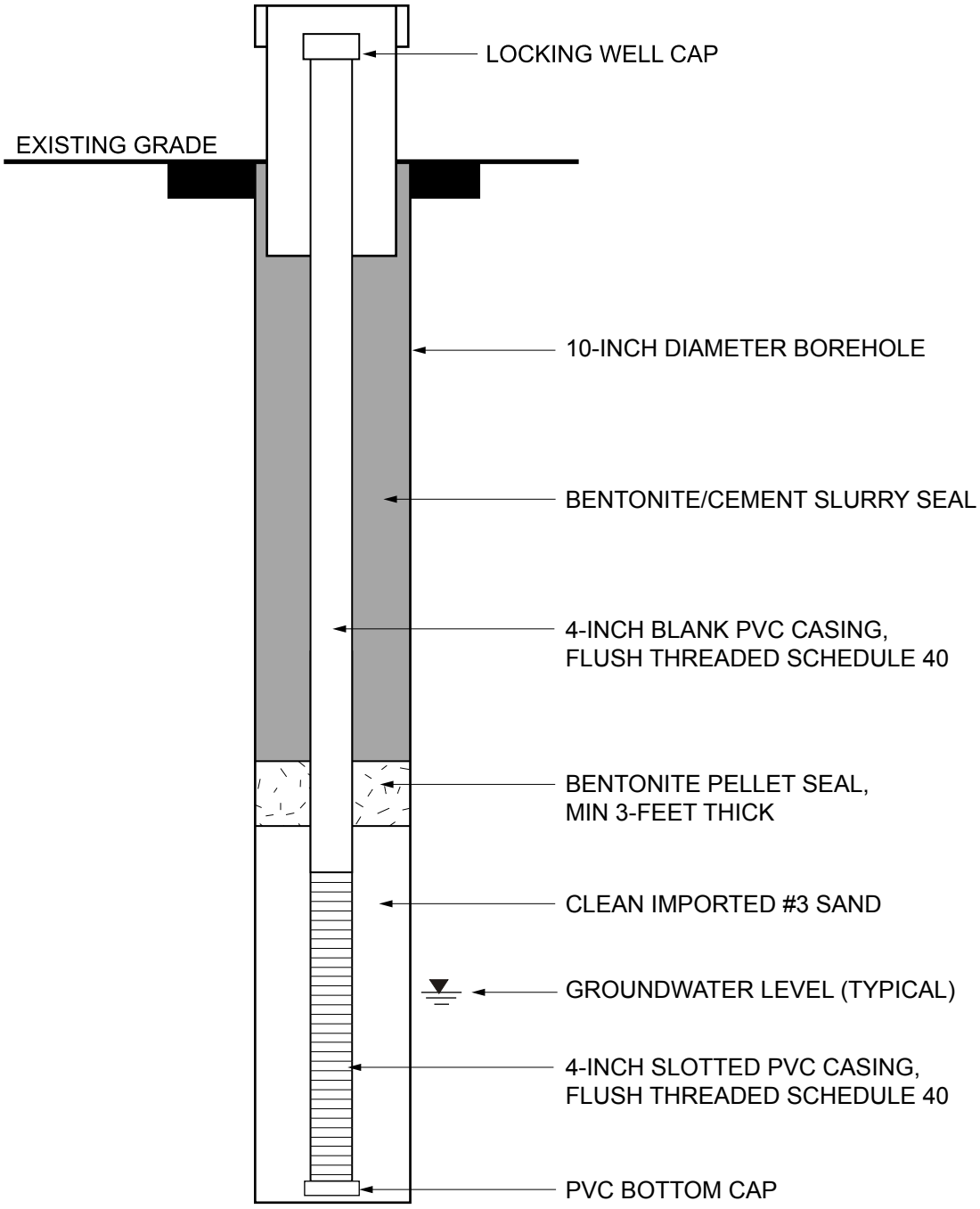


FIGURE 1-1. MAP OF GROUNDWATER BASIN TO BE MONITORED



SECTION

NOT TO SCALE

P:\43000\143021 - PCWA LGA Prop 84\Attachment 5 Scope of Work

DATE	PROJECT	SITE	
7-12-12	143021	**PCWA Martis Valley Monitoring Well Installation Martis Valley, California**	**Figure A5-2**
PCWA		TITLE **Well Construction Diagram**	